In the Claims

1-21 (canceled)

22 (new). An isolated antagonist of MCP proteins:

a) comprising mutants of MCP proteins in which the following combinations of residues, numbered on the sequence of human mature MCP-1, are substituted to Alanine, Glycine, Serine, Threonine, Proline, Aspartic acid, Asparagine, Glutamic acid, or Glutamine:

1) 18 and 19;

2) 18 and 58; 19 and 58; or 18, 19 and 58;

3) 18 and 66; 19 and 56; or 18, 19 and 66;

4) 18, 58 and 66; 19, 58 and 66; or 18, 19, 58 and 66; or

5) 18 with one or more of the following: 24, 44, 49, 75; 19 with one or more of the following: 24, 44, 49, 75; or 18, 19 and one or more of the following: 24, 44, 49, 75;

b) comprising mutants of MCP proteins in which the following combinations of residues, numbered on the sequence of human mature MCP-1, are substituted to Alanine, Glycine, Serine, Threonine, Proline, Aspartic acid, Asparagine, Glutamic acid, or Glutamine:

1) 18 and 19;

2) 18 and 58; 19 and 58; or 18, 19 and 58;

3) 18 and 66; 19 and 56; or 18, 19 and 66;

4) 18, 58 and 66; 19, 58 and 66; or 18, 19, 58 and 66; or

5) 18 with one or more of the following: 24, 44, 49, 75; 19 with one or more of the following: 24, 44, 49, 75; or 18, 19 and one or more of the following: 24, 44, 49, 75;

wherein residues 18 and 19 are Alanine;

c) comprising active mutants of the antagonists as set forth in a) or b) in which one or more amino acid residues have been added, deleted, or substituted without interfering with the antagonistic activity;

d) comprising peptide mimetics designed on the sequence, structure or both the sequence and the structure of polypeptides or peptides of c);

e) comprising polypeptides or peptides comprising the amino acid sequence of c) or d), and an amino acid sequence belonging to a protein sequence other than the corresponding MCP protein;

f) comprising active fractions, precursors, salts, or derivatives of c), d) or e); or

g) comprising an antagonist as set forth in a), b), c), d), e) or f) wherein the MCP proteins are proteins having at least 70% of homology with human mature MCP-1, MCP-2, MCP-3, MCP-4, or Eotaxin.

23 (new). The isolated antagonist of claim 22, wherein the MCP proteins are human MCP-1, human MCP-2, human MCP-3, human MCP-4, or human Eotaxin.

24 (new). The isolated antagonist of claim 22, comprising the sequence of SEQ ID NO: 3.

25 (new). The isolated antagonist of claim 22, wherein the polypeptide or peptide of e) comprises an amino acid sequence selected from one or more of these protein sequences: extracellular domains of membrane-bound protein, immunoglobulin constant region, multimerization domains, extracellular proteins, signal peptide-containing proteins, or export signal-containing proteins.

26 (new). The isolated antagonist of claim 22, further comprising a molecule chosen from radioactive labels, biotin, fluorescent labels, cytotoxic agents, or drug delivery agents.

27 (new). An isolated nucleic acid encoding an antagonist:

a) comprising mutants of MCP proteins in which the following combinations of residues, numbered on the sequence of human mature MCP-1, are substituted to Alanine, Glycine, Serine, Threonine, Proline, Aspartic acid, Asparagine, Glutamic acid, or Glutamine:

1) 18 and 19;

2) 18 and 58; 19 and 58; or 18, 19 and 58;

3) 18 and 66; 19 and 56; or 18, 19 and 66;

4) 18, 58 and 66; 19, 58 and 66; or 18, 19, 58 and 66; or

5) 18 with one or more of the following: 24, 44, 49, 75; 19 with one or more of the following: 24, 44, 49, 75; or 18, 19 and one or more of the following: 24, 44, 49, 75;

b) comprising mutants of MCP proteins in which the following combinations of residues, numbered on the sequence of human mature MCP-1, are substituted to Alanine, Glycine, Serine, Threonine, Proline, Aspartic acid, Asparagine, Glutamic acid, or Glutamine:

1) 18 and 19;

2) 18 and 58; 19 and 58; or 18, 19 and 58;

3) 18 and 66; 19 and 56; or 18, 19 and 66;

4) 18, 58 and 66; 19, 58 and 66; or 18, 19, 58 and 66; or

5) 18 with one or more of the following: 24, 44, 49, 75; 19 with one or more of the following: 24, 44, 49, 75; or 18, 19 and one or more of the following: 24, 44, 49, 75;

wherein residues 18 and 19 are Alanine;

c) comprising active mutants of the antagonists as set forth in a) or b) in which one or more amino acid residues have been added, deleted, or substituted without interfering with the antagonistic activity;

d) comprising peptide mimetics designed on the sequence, structure or both the sequence and the structure of polypeptides or peptides of c);

e) comprising polypeptides or peptides comprising the amino acid sequence of c) or d), and an amino acid sequence belonging to a protein sequence other than the corresponding MCP protein;

f) comprising active fractions or precursors of c), d) or e); or

g) comprising an antagonist as set forth in a), b), c), d), e) or f) wherein the MCP proteins are proteins having at least 70% of homology with human mature MCP-1, MCP-2, MCP-3, MCP-4, or Eotaxin.

28 (new). An expression vector comprising the nucleic acid of claim 27.

29 (new). A host cell transformed with a vector of claim 28.

30 (new). A process of preparing a MCP antagonist comprising culturing the transformed cells of claim 29 and collecting the expressed antagonist.

31 (new). A composition comprising a carrier and an isolated antagonist of claim 22.

32 (new). A method of reducing leukocyte migration and activation comprising contacting leukocytes with a composition according to claim 31.

33 (new). A method of treating a disease or disorder comprising the administration of an effective amount of a composition according to claim 31 to an individual in need of treatment for a disease or disorder.

34 (new). The method of claim 33, wherein the disease or disorder is selected from the group consisting of vascular disorders, cancer, inflammatory diseases, autoimmune diseases, and infections.